

In the Claims:

1. (Currently Amended) An optical storage apparatus for writing and reading a storage medium using a laser beam, comprising:

a light source for emitting a laser beam onto said storage medium;

a servo control unit for performing follow up control of said laser beam onto said storage medium according to a reflected light from said storage medium;

an automatic power control (APC) detector for monitoring the emission power of said light source; and

a control unit for calculating a drive instruction amount based on a detection output of said APC detector, and performing automatic power control of said light source according to said drive instruction amount, so that the emission power on said storage medium is maintained to be a write power during said writing, and the emission power on said storage medium is maintained to be a read power during said reading,

~~wherein said control unit executes at least one of the following abnormality detection procedures of said APC detector;~~

~~(1) wherein said control unit~~ measure measures ~~ana~~ an inclination of a relationship between said drive instruction amount and the detection output of said APC detector, and ~~compare the pre-measured inclination of the relationship between said drive instruction amount and the detection output of said APC detector with said measured inclination;~~ and judges the abnormality of said APC detector by comparing the pre-measured

inclination of the relationship between said drive instruction amount and the detection output of said APC detector with said measured inclination.

~~(2) to perform said automatic power control with an arbitrary time interval, and measure said error values for a plurality of times and compare said error values measured for the plurality of times in a state with said drive instruction amount fixed,~~

~~(3) to measure an average value of quantities of said reflected light during a predetermined period, and compare the average value of the quantities of the reflected light with the pre-measured average value of the quantities of the reflected light.~~

2. (Original) The optical storage apparatus according to Claim 1, wherein said control unit measures the detection output of said APC detector when said light source is driven with said drive instruction amount, and measures the inclination of the relationship between said drive instruction amount and said detection output.

3. (Original) The optical storage apparatus according to Claim 1, wherein said control unit measures the inclination of the relationship between said drive instruction amount and the detection output of said APC detector when loading of said storage medium.

4. (Original) The optical storage apparatus according to Claim 1, wherein said control unit judges the abnormality of said APC detector by comparing a value

obtained by dividing said measured inclination by a pre-measured inclination with the threshold value.

5. (Original) The optical storage apparatus according to Claim 1, wherein said control unit performs said automatic power control with an arbitrary time interval, and measures the inclination of the relationship between said drive instruction amount and the detection output of said APC detector from said drive instruction amount at the start of said automatic power control.

6-9. (Cancelled)

10. (Currently Amended) An abnormality detection method of a detector for emission control, comprising the steps of:

performing automatic power control of a light source which emits a laser beam for writing and reading a storage medium onto said storage medium according to a drive instruction amount calculated based on a detection output of an automatic power control (APC) detector for monitoring the emission power of said light source, so that the emission power on said storage medium is maintained to be a write power during said writing, and the emission power on said storage medium is maintained to be a read power during said reading;

measuring an inclination of a relationship between said drive instruction amount and the detection output of said APC detector; and

judging the abnormality of said APC detector by ~~at least one of (1) comparing a pre-measured inclination of the relationship between said drive instruction amount and said detection output of said APC detector with said measured inclination;~~ (2) performing said automatic power control with an arbitrary time interval, measuring said error values for a plurality of times in a state with said drive instruction amount fixed and comparing the error values measured for the plurality of times; and (3) measuring the average value of quantities of a reflected light from said storage medium during a predetermined period and comparing said measured average value of the quantities of the reflected light with a pre-measured average value of the quantities of the reflected light.

11. (Original) The abnormality detection method of a detector for emission control according to Claim 10, wherein said measurement step comprises a step of measuring the detection output of said APC detector when said light source is driven with said drive instruction amount, and a step of measuring the inclination of the relationship between said drive instruction amount and said detection output.

12. (Original) The abnormality detection method of a detector for emission control according to Claim 10, wherein said measuring step comprises a step of

measuring the inclination of the relationship between said drive instruction amount and the detection output of said APC detector when said storage medium is loaded.

13. (Original) The abnormality detection method of a detector for emission control according to Claim 10, wherein said judgment step comprises a step of judging the abnormality of said APC detector by comparing a value obtained by dividing said measured inclination by a pre-measured inclination with the threshold value.

14. (Original) The abnormality detection method of a detector for emission control according to Claim 10, wherein said measurement step comprises a step of performing said automatic power control with an arbitrary time interval, and a step of measuring the inclination of the relationship between said drive instruction amount and the detection output of said APC detector from said drive instruction amount at the start of said automatic power control.

15-18. (Cancelled)